

# World Radiocommunication Conference 2012 (WRC-12)

## Response by the Radio Society of Great Britain



January  
2010

### Introduction

This response to the above Ofcom consultation document is from the Radio Society of Great Britain (RSGB, [www.rsgb.org](http://www.rsgb.org)) on behalf of its members and the wider Amateur Radio community. The latter includes both individual operators as well as a variety of special interest groups whose spectrum this document involves

RSGB is recognised as one of the leading organisations in the world in the field of amateur radio. It collaborates with its fellow national societies via the International Amateur Radio Union (IARU) through IARU Region-1 ([www.iaru-r1.org](http://www.iaru-r1.org)).

Amateur radio is a science based technical hobby enjoyed by over three million people worldwide. From a statutory point of view it is fully recognised by the International Telecommunication Union (ITU) as a service and is listed in the ITU Radio Regulations as the Amateur Service and the Amateur-Satellite Service.

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### Responses

**Question 1:** *Are there any opportunities or threats associated with WRC-12 in addition to those already identified in this consultation? Do you agree with the prioritisation of the agenda items, and if you have identified any opportunities or threats, does this have an impact on these priorities?*

**No comment**

**Question 2:** *Do you have any comments on the mechanism for UK preparation for WRCs and the role of Ofcom in this process?*

**The RSGB is content with the process and grateful for the opportunity to represent Amateur interests within the UK through membership of the IFPG and participation within the UK delegation at relevant CEPT & ITU-R preparatory meetings.**

**Question 3:** *Do you agree with Ofcom's view that WRC-12 does not have direct implications for equality or diversity of UK citizens?*

**Yes**

**Question 4:** *Do you agree with Ofcom's view that it is beneficial to identify spectrum for ENG use on a non-exclusive basis in order to support market-led, non-mandatory harmonisation?*

**No comment**

**Question 5:** *Do you agree with Ofcom's aim to seek an appropriate regulatory framework to facilitate the development of fixed service in the bands above 71 GHz?*

**We believe this need not be an ITU priority as it is already well established, including light licensing on a national/European basis at the lower end of this frequency range (71-86GHz) which includes the well established 76GHz Amateur mm-wave allocation. If necessary, studies**

should be concentrated around the 118 and 183GHz absorption peaks and above 150GHz where risks are minimal, though we suspect that demand is low and technological barriers still significant

*Question 6: Do you agree with Ofcom's intended approach to use of the band 21.4 – 22 GHz?*  
**No comment**

*Question 7: Do you agree with Ofcom's approach to the sharing issues in the band 790 – 862 MHz?*  
**No comment**

*Question 8: Do you agree with Ofcom's objective to protect the existing services from deployment of HAPS?*

**Yes. We share Ofcom's view that demand for HAPS is limited but can pose risks. We are especially keen that the adjacent 5850MHz Amateur Satellite Service downlink allocation is protected from harmful out of band emissions. This is shortly to be used by an Amsat-UK payload on the ESA ESEO Satellite project that will provide crucial mission and educational roles**

*Question 9: What is your view on the need for additional spectrum to be allocated for mobile satellite services?*

**We would be concerned if any new allocation is considered that overlaps with Amateur narrowband, Amateur Satellite or frequencies used for Earth-Moon-Earth (Moonbounce) contacts.**

*Question 10: What are your views on the spectrum needs for the control of unmanned aircraft?*

**We note that this is also a provisional WRC15 Agenda Item as identified by WRC-07 Resolution 806. It is important to distinguish between the relatively modest bandwidths needed for safe control or flight termination, from more general communications (such as video downlinks) in bands where the Amateur Services may share. We therefore agree with Ofcom Para-4.7 that such UAS operations should not unduly impact other services.**

*Question 11: What are your views on the technical and regulatory issues related to new aeronautical services? Is there a current or expected future demand from other services to use the bands identified under agenda item 1.4?*

**No Comment**

*Question 12: What are your views on the use of the 1.6 GHz bands by MSS?*

**No comment on 1.6GHz use – see our reply to Q9 should other bands be considered**

*Question 13: What are your views on the Appendix 17 frequency arrangements for maritime use?*

**No Comment**

*Question 14: What are your views on the need for additional allocations for maritime mobile use to enhance maritime safety and security?*

**We recognise the need and the overlap with AI 1.23. We thus would prefer that this requirement be met in a spectrally efficient manner that will also allow AI 1.23 to be met.**

*Question 15: Do you agree with Ofcom seeking to protect services operating in the UK from any impact due to long range VHF radar systems?*

**Yes. The Russian Federation and other states have a far wider interest in VHF radar than just satellite or asteroid tracking<sup>1</sup>. We have significant concerns regarding high power emissions in 142-144MHz including from mobile and aerial platforms, as these would be immediately adjacent to the weak signal section of the Amateur Primary 144-146MHz allocation**

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<sup>1</sup> <http://www.ousairpower.net/APA-Rus-Low-Band-Radars.html> has good coverage of many VHF radars

*Question 16: Do you agree with Ofcom supporting the extension of RDSS allocations in the band 2483.5 – 2500 MHz, whilst seeking to protect other services operating in the UK?*

**No Comment**

*Question 17: Do you have any view on the introduction of radiolocation in the band 15.4 – 15.7GHz?*

**No Comment**

*Question 18: Do you have any comments on the use of spectrum above 275 GHz?*

**Yes. In 2008 RSGB made a previous input to Ofcom in this regard<sup>2</sup>. Since then we have become deeply concerned that studies for this AI have resulted in a burgeoning increase in the number of spectral lines and thus potential bandwidth that might be reserved (as per Annex-1). Furthermore the guiding Resolution 950 also called for a review of active uses which seems to have been largely neglected. Amateurs in the USA, Germany and Austria have experimental access to spectrum above 275GHz and have pioneered development of communication systems using Ultra-Stable Oscillators.**

**We therefore strongly agree with the comments in Para-5.4 that spectrum monopolisation must not occur and that, at the very least, ITU Footnote 5.565 be made far more flexible to encourage innovative developments. We would welcome further discussion with Ofcom in this regard.**

*Question 19: Do you have any views on space research use of the band 22.55 – 23.15 GHz? Is there a current or expected future demand from other services to use this band?*

**No Comment**

*Question 20: Do you support the protection of science services in the band 37 – 38 GHz? Do you know of any anticipated requirements for aeronautical mobile use or any other current or expected future demand in this band?*

**No Comment**

*Question 21: Do you have any views on HF Oceanographic Radars operating in the range 3-50MHz?*

**We would require existing primary usage Amateur Service and Amateur Satellite Service allocations to be protected**

*Question 22: Do you have any views on the protection of lightning detection systems from interference?*

**We are supportive of this initiative, as it can underpin LF propagation and Solar Flare (SID) research, as well as relating to the protection of the atmospheric noise floor.**

*Question 23: Should Amateur radio be given an allocation in part of the band 415 – 526.5 kHz, and if so where?*

**We strongly support this agenda item and believe that the UK should consider increasing its priority from “low” to “medium”. Firstly, the AI offers specific self-training in science and technology that is not common to existing Amateur Service allocations. In the medium to long-term this may impact on maintenance of the UK PLC engineering / technology base. Secondly, the nature of its ground-wave propagation, largely unaffected by ionospheric and solar disturbance, provides non-skip regional communications coverage (over several hundreds of miles of radius) that would enhance regional UK emergency communications through use of the Amateur Service.**

*Question 24: Do you agree with Ofcom’s approach to support an allocation to the meteorological satellite service, subject to not constraining other services, in the band 7850 – 7900 MHz? Is there a current or expected future demand from other new services to use this band?*

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<sup>2</sup> <http://www.ofcom.org.uk/consult/condocs/275ghz/responses/> has a detailed RSGB submission

**Yes – on the basis those services also underpin propagation research and predictions**

*Question 25: What are your views on the need to introduce greater flexibility in the international regulatory framework and on Ofcom's approach to agenda item 1.2?*

Although it is obviously desirable to not hinder the introduction of innovative services and technologies, it is also important to ensure that such introductions are not at the expense of existing services and users. The use of Listen Before Talk, Detect And Avoid and similar systems to enhance spectrum sharing are not a complete answer, since they fail to cater for the hidden node problem, and, where differing applications in the same frequency band have widely different powers and bandwidths, the 'near-far' problem also provides major sharing difficulties. The concept of Band Edge masks needs careful consideration where adjacent bands are used for weak signal work, as in the Amateur, Amateur Satellite and RAS allocations, because of Out of Band emissions.

ITU-R Resolution 951 Annex 1 offers possible options: of these, option 1 is unlikely to be satisfactory and either option 3 or 4 appears to offer the best possibilities for enhancing efficient spectrum use. Nevertheless, these options need careful implementation if existing users are to be protected.

Converging Fixed and Mobile services is not something can be done without careful consideration of which Fixed and which Mobile services are involved, and implementation will almost certainly end up having to be done on a case by case basis.

*Question 26: Do you agree with Ofcom's view that no changes are needed in the Radio Regulations to implement SDR/CRS?*

Generally, Yes. However, especially where SDR/CRS systems are incompatible with services in the bands the CRS is proposing to use (e.g. a wide band DHSS system for the CRS and a narrow band system for the existing user) a regime which prevents harmful interference from the SDR/CRS is required. This is probably best implemented on a national basis.

*Question 27: Do you agree with Ofcom's view that it is not necessary to regulate SRDs via the Radio Regulations?*

There is no doubt that harmonized frequency allocations for SRDs would have benefits in terms of international trade and the prevention of illegal, if unintended, use of spectrum otherwise allocated. An example of the facility of this Harmonization is the Medical Implant Communications System authorisation under ITU-R RS.1346. The general use of the ISM Band at 2.4GHz is another example where a universally available band is of value to the users, although attempts to tighten channel access requirements may in the long run actually reduce the availability of the band to many existing users. However, difficulties exist in the definition of what constitutes an SRD and what is a Fixed or Mobile service application, albeit the SRD is operating over a range of between a few centimetres and a kilometre or more. Regulation is therefore best left to regional co-ordination, rather than via the RR.

*Question 28: Do you have any comments concerning the standing agenda items?*

AI 1.1: The Ofcom comment is noted and supported.

AI 7: No comment

AI 8.1: No comment

*Question 29: Are there any items you wish to see addressed by future WRCs?*

In terms of increasing frequency we see our medium/long-term priorities as:

- a) Addressing congestion on the HF bands by seeking an Amateur Service allocation near to 5MHz and expansion of the existing allocations at 10, 14 and 18MHz, with, in the longer-term revisiting the WRC-07 AI on 7.2 – 7.3MHz.
- b) The harmonisation of Amateur Service allocation in Regions 2 & 3 with Region 1. This would be through the retention of the exclusive 50MHz allocation to the Amateur Service where it now exists, and provision of at least 2MHz in other geographical areas, with at least 500 kHz on an exclusive basis. A harmonised allocation for the Amateur

